

Hence it would appear, that with the exception of *Emys decussata*, *Crocodilus acutus*, *Sphærodactylus sputator*, *Anolis Sagrei*, *Leionotus maculatus*, *Dromicus antillensis*, and *Typhlops lumbricalis*, unless several of the others have been incorrectly determined, the species belonging to the Islands Jamaica and Cuba, although but 90 miles distant, are altogether different, and that several of the genera which exist in the one are wanting in the other. Besides the above we have in our collection a small serpent of the size of a Calamarian, with a very short and broad frontal (vertical) plate, a large pre-ocular, no loreal and broad gastrostega, carinated scales and a double row of black spots along the back, from Jamaica, included in the donation of Dr. Penneck, which is identical with *Storeria DeKayi*, B. & G. (*Ischognathus DeKayi*, Dum. et Bib.* With the exception of *Anolis Carolinensis*, the reptiles of Cuba differ in their species altogether from those of the United States, even the southern portion of it; and not only so, but with the exception of *Emys*, *Hylodes* and *Bufo*, and perhaps *Ischognathus*, there does not appear to be even a genus common to the two countries. Were the Herpetology of each of the West India Islands fully known and very accurately determined, many highly interesting and important facts would be developed, tending much to elucidate the laws which govern the geographical distribution of species.

Notice of a Collection of Reptiles from Kansas and Nebraska, presented to the Academy of Natural Sciences, by Dr. Hammond, U. S. A.

By EDW. HALLOWELL, M.D.

Ord. *CHELONIA*, Brog.

Fam. *EMYDIDÆ*, Gray.

ELODITES OR *TORTUES PALUDINES*, Duméril & Bibron.

Five specimens of *Emys pseudo-grographica*, (young.) The shell of the largest of these specimens measures two and a half inches in length, by two inches, five lines in breadth, and is almost orbicular; the carinæ upon the vertebral plates are very distinct. Color of carapax olive, with orange colored concentric and irregular lines, most conspicuous when the epidermis is removed; an areola towards the posterior margin of each of the plates; sternum yellowish, marked with irregular dark colored lines; extremities and head and neck marked with longitudinal lines of yellow and black; a curvilinear transverse yellow band on each side, behind the eyes continuous with one running down the neck, and a longitudinal one between the eyes; 24 marginal plates. This species, according to Prof. Holbrook, is found in many of the rivers that empty into the Mississippi, but never east of the Alleghanies.

Ord. *SAURIA*, Brogn.

Fam. *IGUANIDÆ*.

Three specimens of *Crotaphytus collaris*, Holb.

These differ from those from the Creek boundary presented by Dr. Woodhouse, and another large specimen in the collection of the Academy from Arkansas, in wanting the numerous spots with which the latter are covered. The black bands upon the neck and between the shoulders are very distinct; the general color above is blue, more or less deep, with a tinge of green, with transverse bands of white upon the body and tail; deeper bands of blue upon the posterior extremities; under parts white, with dark colored markings under the chin in two of the young; the plates upon the front in all the specimens are, for the most part larger than those upon the muzzle; those constituting the semi-circular ridges along the internal margin of the orbit quite large; occipital plate distinct;

* This species has a wide range, being found in Massachusetts and Georgia. Duméril and Bibron say they have received a specimen from Mexico.

many of the plates (11 or 12,) upon the orbits are much larger than the rest; this difference exists also in the Creek boundary specimens, but is not so well marked; femoral pores very distinct; these in some of the Creek boundary specimens are very large, ($\frac{1}{2}$ a line in diameter,) much larger than in any specimen of *Sceloporus* I have seen; eight eggs quite large, from eight to nine lines in length, were counted in the ovaries of the largest; in which also the femoral pores were very distinct, so that the femoral pores do not belong exclusively to the male in *Crotaphytus*; the stomach which is a large and rounded sac was distended with the debris of grasshoppers and coleopterous insects; one of the former nearly entire.

Habitat.—Arkansas, Louisiana near the confines of Texas, Western Texas, Kansas.

The two specimens of *Holbrookia maculata* (*Cophosaurus* Troschel) do not differ very materially from the many specimens we have from the Creek and Cherokee countries presented by Dr. Woodhouse; the marginal plates upon the upper jaw constituting the delicate fluting in that region are more narrow, and the markings upon the back are more regularly disposed, and the white spots are much less numerous than in some of the Creek specimens. The plates upon the head will be found to vary considerably in individual form and arrangement in the latter.

Habitat.—Creek boundary, Western Texas, New Mexico.

The specimens of *Phrynosoma cornutum* present nothing remarkable; the abdomen and chin of a young one are spotted all over with black spots, and lines of different shapes.

Habitat.—Arkansas, western country from Missouri to Texas, Creek and Cherokee countries, Western Texas, Santa Fe, New Mexico, Kansas.

LACERTIDÆ.

Seven specimens of *Cnemidorhous gularis*, Baird and Girard. These are distinguished from *C. sexlineatus* by the broader stripes and larger size of the scales; the fronto-nasal plates appear also to be comparatively smaller in *gularis*.

Habitat.—Texas, New Mexico and Kansas.

SCINCIDÆ.

Five specimens of *Plestiodon obsoletum*, B. & G.—No two of them are colored precisely alike. They all have a general resemblance, yet each differs from the other. This difference is produced mainly by the greater or less extent to which the scales are spotted with black; in one specimen, the greater part of each scale upon the body being thus spotted; in another, the ground color, which is drab, greatly preponderates; head brown or olive, marked with dark lines and spots, under parts silvery white.

Habitat.—Borders of Rio San Pedro, Texas, Kansas.

CHALCIDIDÆ.

Ophisaurus ventralis, two specimens.

These present different markings; they both are drab colored above, with a brown band running from the occiput along the middle of the back to the extremity of the tail; sides black, with two narrow white vittæ, the upper terminating five inches from the extremity of the tail; the lower on the left side 4 inches 2 lines from the anus; and on the right 1 inch 4 lines; three white lines upon the tail anteriorly; two narrow brown bands on each side of the abdomen. Length of head, neck and body $5\frac{1}{2}$ inches; of tail 1 foot 2 inches. The other specimen is olive above, with a brown band along the middle, but the neck and anterior part of the body is marked with white narrow ocellated spots, and instead of the lateral vitta there are upon the sides on a black ground, three rows of interrupted white spots, often united so as to form a line with very imperfect margins; under surface silvery white; length of head, neck and body $7\frac{1}{2}$ inches; of tail, 1 foot, 5 inches, 4 lines.

A specimen from Verdigris river resembles the first in its markings; another

and very large and stout specimen in the collection of the Academy is black above without any vitta whatever, but marked with transverse longitudinal rows of small spots; in another, the ground color above is brown, and black upon the sides with longitudinal lines of black expanded at intervals, and in these places surrounded with light colored spots, the spots upon the black ground and on the sides much larger; in another, there are longitudinal lines of white spots upon a black ground upon the back, with narrow lines of the same color upon the sides; in another, there are transverse bands of white spots on each side, upon the back, which is of a beautiful light brown, and white spots upon the head, the lateral white lines barred at intervals with cross bars of the same colors, with ten rows of dark brown spots upon the middle of the tail. A specimen from South Carolina is light brown above with lateral rows of darker brown; another from North Carolina is of a uniform drab color above, the scales upon the sides which are greyish marked with numerous black spots of different dimensions and irregular in shape, the abdomen *dark slate color*; under part of tail olive with four longitudinal lines of black spots, so that it will be seen that this species varies much in its mode of coloration. According to Dr. Holbrook, the under surface during life is bright yellow, most remarkable at the abdomen. Duméril and Bibron describe four varieties, including two nominal species, (*punctatus* and *striatulus*,) mentioned by Cuvier.

Habitat.—From Southern Virginia to Cape Florida, Alabama, Mississippi, Louisiana, and in many of the States bordering on the Missouri and Ohio rivers. Its Northern range west of the Alleghanies is Michigan, according to Dr. Holbrook.

Ord. OPHIDIA.

SERPENTES INNOCUI.

Fam. CALAMARIDÆ.

The Calamarians belong to the second section or sub-order of Ophidians, the Aglyphodont or Azemiophid Serpents of Duméril and Bibron, characterized as having "recurved, conical, rounded, full and smooth teeth, without cannelation at their points, implanted in both jaws." The serpents belonging to this family have the "body very slender, rounded, and almost of the same thickness from the head to the tail." Duméril and Bibron assert that all the serpents belonging to it are terrestrial, and divide the family into nine genera, distributed in the E. Indies, (Oligodon without palatine teeth,) (4 sp.) Java, Sumatra, Borneo and Celebes (Calamaria,) (12 sp.) Mexico, Cayenne, Surinam, Santa Cruz, Bolivia, New Granada, Java, (Rabdosome,) (6 sp.) Cape of Good Hope, (Homalosoma,) (1 sp.) Celebes, Macassar, (Rabdion,) (2 sp.) Java, (Elapoidis) (1 sp.) Ceylon, and the Philippines, (Aspidura,) (1 sp.) N. America, (Carphophis,) (2 sp.) and (Conocephalus) (1 sp.) To the two last, originating in N. America, we add the following, contained in the Kansas collection, and which, in its general characters, bears a strong resemblance to Homalosoma, but differs from it in the carination of the scales, the acuteness of the snout, the shape of the frontal (vertical) plate, &c.

Gen. MICROPS, nob.

Char. Head small, flattened above and posteriorly, depressed in front; snout acute; nine plates upon the top of the head, the pre-frontal considerably larger than the internasals; frontal plate short, but longer than broad, the two lateral margins nearly straight; nostril in a single plate, near its anterior margin; a frenal, one anterior ocular and two posterior oculars; seven superior labials, the fifth and sixth the largest, the sixth intercalated between the fifth and seventh, the eye resting on the third and fourth; occipital plates margined externally by a row of four or five plates; pupil circular; posterior genaeals very long, anterior small and transverse; teeth minute, existing both in the palate and maxillaries; scales strongly carinated, except the two inferior rows, elongated, slightly notched posteriorly; gastrostega not ascending high upon the flanks; tail short and pointed, with a double row of scutes.

MICROPS LINEATUS, nob.

Char. Size about the same as that of *Homalosoma lutrix*.

The head is quite small, slightly rounded above, depressed in front; nine plates; snout acute; nostril in a single plate, which is more or less quadrangular, quite near its superior margin, and very much nearer its anterior than its posterior extremity; on the left side this plate is cleft inferiorly below the nostril; a loreal; one anterior orbital; two posterior orbitals; seven superior labials, the eye resting on the third and fourth, the sixth acutely angular, intercalated between the fifth and the seventh, not reaching the margin of the jaw; body slender, thicker in the middle, covered with 19 rows of scales, all of which are very strongly carinated, except the three or four inferior rows, the last being quite smooth and larger than the others; scales with the exception of the three inferior rows on each side narrow, subelliptical, bi-punctate posteriorly, the carina reaching the entire length of the scale; tail short and tapering to a point; abdom. scut. 138. subcaud. 34; a single præanal.

Coloration. Brown above, with three narrow yellow dorsal vittæ; the middle occupying one row and half of the adjoining row of scales; head above brown; upper jaw light yellow; abdomen and under part of tail yellow, with a double row of triangular spots of a bluish green color along the middle and base of tail; these spots are sometimes confluent at their bases; the spots beneath the epidermis are perfectly black.

Dimensions. Length of head 4 lines; greatest breadth 2; length of body to vent 7 inches 5 lines; of tail 1 inch 4 lines.

Habitat. Kansas. One specimen in Mus. Acad., presented by Dr. Hammond.

Gen. Remarks. At first sight this serpent might be taken for a young *Tropidonote*, but a close inspection of the frontal and other plates and the shape of the head indicate the difference. It is of nearly the same size as *Homalosoma lutrix* of the Cape of Good Hope, but in that genus the snout is obtuse and the shape of the frontal plate not the same, and that of the scales, which are smooth, is very different; the nasal, however, is in a single plate. In *Ischnognathus Dekayi* the frontal plate is broader, the nostrils between two plates, and there is no loreal (*Leptognathien*, D. & B.) In *Conocephalus* the snout is acute, and the frontal plate similar but more narrowed, but there is no pre-ocular and but one post-ocular, a long frenal and the nostril between two plates. In *Streptophorus* (*Leptognathien*) the frontal is broader, the pre-frontals very greatly larger than the inter-nasals; the nostrils between two plates; no pre-ocular, two post-oculars and a long frenal.

Fam. CORYPHODONTIDÆ.

CORYPHODON FLAVIVENTRIS.

Among the reptiles presented to the Academy by Dr. Hammond is one specimen of the *Coluber flaviventris* of Say, (Say's Expedition to Rocky Mountains, vol. i, p. 185.) This specimen is olivaceous above, yellow beneath, except upon chin and throat, and along margins of lower jaw, which are white; under part of tail of a lighter yellow than that upon abdomen; seven superior labials, the eye resting on the third and fourth; a small supplementary plate on each side, below the anterior frenal, intercalated between the second and fourth labials; a quadrangular frenal, two post-oculars; nostrils between two plates; plates upon temples as described by Say; 17 rows of smooth elongate scales near the middle of the body; the inferior row the largest; 17 rows upon neck, 15 near the tail; tail of moderate length, longer than in *Ablabes*. 171 abdom. scuta; a bifid præanal; 56 sub-caud. (tail mutilated). Total length 2 ft. 6 inches; of head, neck and body 2 ft.; circumference 2 inches. Say describes the posterior and basal edge of the scales as black, and in one specimen an indistinct double row of reddish brown spots irregularly alternating on each side of the abdomen; these markings are not observed in Dr. Hammond's specimen.

The genus *Coryphodon* of Duméril and Bibron takes its name from two Greek words *Κορυφή*, *Cacumen*, summum in quavis re, summit, and *ὀδον*, tooth, in-

dicating the progressive augmentation or length of the teeth as they recede backward, the following being the essential characters as given by the learned authors, Erpet. Gen. Tom. vii. p. 178.

LES CORYPHODONTIENS.

Char. "Serpents with smooth unequal teeth; the anterior much shorter than those which follow, and increasing successively in length from in front posteriorly." They constitute the seventh family of the great sub-order of Aglyphodont Ophidians. The characters of the genus are the same as those of the family. The scales of this genus are more or less elongated, *smooth or carinated*. It is the only one of the family, and comprise six species, inhabiting North and S. America, the E. Indies and the Indian Archipelago, (Sumatra, Phillipines). Several serpents have been described under the generic name *Bascanion* by Prof. Baird and Girard, having all *smooth* scales, but as the characters are drawn from the external forms alone and not the *teeth*, and inasmuch as many of these are of secondary importance, and not always constant, this genus, it appears to us, cannot be retained. *e. g.* The head in *Coryphodon pantherinus*, a South American species, is not narrow but broad, the supplementary plate beneath the ant-orbital is absent, and there are but 15 rows of scales, &c. In a specimen of *Coryphodon constrictor* before me, the eye rests on the fourth and fifth superior labial, which is prolonged upward, and the supplementary plate below the large anterior orbital is between the third and fourth upper labials; the same occurs in another specimen belonging to the Bonaparte collection. This arrangement, however, is probably exceptional. In the young specimen found at Beesley's Point, and which does not differ materially in its coloring from that discovered in Kansas, there are but 5 superior labials, the third and fifth greatly prolonged, the eye resting solely on the third, and there are three posterior labials. The external characters of *Masticophis* apply almost equally well to *Psammophis*, an African and Asiatic genus, yet how different the form and arrangement of the teeth in *Masticophis flavigularis* (*Herpetodryas*) and in the latter genus.

Among the specimens is one which appears to be a young *Coryphodon constrictor*; the general coloration resembles very much that of *Ablabes triangulum*, but it is at once distinguished by the shape of the head and the form of the frontal plate. The following are its characters, which may be interesting, showing the great change which age sometimes develops in the coloration of serpents: Head long, flattened above, depressed in front; frontal long and narrow, narrower behind, excavated laterally; eye large, seven superior labials, the eye resting on the third and fourth; nostril between two plates; a more or less quadrangular loreal; one large ant-orbital, very narrow below, broad above, appearing upon the top of the head, between the prefrontal and supraorbital; a small supplementary plate beneath it; two post-oculars; two rows of plates upon each temple between the occipital and superior labials; scales perfectly smooth, 17 rows near the middle of the body; inferior lateral rows the largest. Total length 1 foot $7\frac{1}{2}$ lines; length of head 6 lines; greatest breadth 3; length of tail 3 inches.

Coloration. Head above brown, occipital and frontal plates marked with yellow; chin, throat and superior labials yellow, the posterior edges of the latter black; a red and ash brown circular spot immediately behind the occipital plates; 54 well marked transverse reddish brown blotches upon the back, not reaching to the tail, becoming indistinct in a space of $2\frac{1}{2}$ inches; the lateral extremities of the transverse blotches are separated from the abdominal scutes by four and a half rows of scales; sides covered all over with brown spots; a black spot near the exterior extremity of each abdominal scute, at its posterior margin, and one or more smaller near the middle, upon the anterior part of the abdomen; rest of abdominal surface and of under part of tail yellow, in the latter region almost white. Ab. scut. 171; one bifid præanal; 80 subcaud.

Gen. Remarks. The colors of this animal are so different that it might be readily mistaken for a distinct species. The *Col. vernalis* of Dekay has been

taken for the young of the Constrictor, which hardly differs more in color from the adult than does *Col. vernalis*, but *Col. vernalis* is no doubt the adult age, and appears to belong to a different genus, viz., *Herpetodryas*.

HERPETODRYAS VERNALIS.

Syn. *Col. vernalis*, Dekay *Col. vernalis*, Holbrook, N. Am. Herpet. vol. 3, p. 79. *Chlorosoma vernalis*, Baird and Girard, Cat. N. Am. Serp. p. 108.

Two specimens. These do not differ from the other well known individuals. This serpent has a wide range, being found in New York, Maine, Pennsylvania, Wisconsin, Massachusetts, (Baird & Girard,) Connecticut, (Holb.) We have one specimen from Rhode Island presented by Mr. S. Powell. Wagler gives as the type of his genus *Chlorosoma* the *Coluber viridissimus* of Linnæus, (habitat Surinam,) which is a serpent about three feet in length, the *Col. vernalis* a little more than one. The two serpents belong to different families, the one being an *Isodontian*, according to Duméril and Bibron's arrangement, having the teeth smooth, alike, equally spaced, and the head larger than the neck, and is innocuous, the other belonging to the suborder of *Opisthophyes*, having one or more posterior teeth longer and channelled, and is venomous. (Fam. *Dipsadiens*.) The *Col. viridissimus* of Linnæus (*Chlorosoma viridissimum*, Wagler,) belongs to the genus *Dryophylax* of Duméril and Bibron, characterized as having the "head conical, rather long, but little distinct from the trunk, in which the inferior region is separated from the flanks by a more or less salient line which the *gastrostega* form toward their extremities; tail usually long, tapering and rather slender; eyes of the ordinary size, pupil round, subcaudal; scutes bifid." (Tome vii. p. 1103.) Duméril and Bibron state that they do not retain the generic name of *Chlorosoma* of Wagler, he not having characterized it with sufficient precision. In *Dryophylax viridissimus* the eye rests on the fourth and fifth superior labials, (third and fourth in *vernalis*,) there is but one anterior orbital, (two in *vernalis*,) and there is no loreal, the posterior frontals passing down alongside of the head to join the superior labials. There is but one temporal plate, (three in *vernalis*,) and there are eight superior labials, (seven in *vernalis*;) tail 9 inches 8 lines in *viridissimus*, 3 inches 4 lines in *vernalis*.

Sub-Gen. ELAPHIS, Aldrovandi.

Char. "Head usually but little distinct from the body, and for the most part slightly conical, with a snout inclined a little downward; trunk almost always cylindrical; sides of the abdomen but little angular; scales of the trunk strongly or feebly carinated."—D. et B.

ELAPHIS ALLEGHANIENSIS.

Syn. *Scotophis Alleghaniensis*, B. & G.

Two specimens. The coloration of these corresponds very well with the descriptions of *Coluber Alleghaniensis* by Prof. Holbrook, of *Scotophis Alleghaniensis*, by Baird and Girard, except that the posterior part of the abdomen and under part of tail is not uniformly slate black, being tinged to a certain extent with yellow; the number of superior marginal labial plates in these specimens is eight, the seventh the largest; the two inferior rows only appear to be smooth, except upon the neck, (according to Holbrook four, and Baird and Girard seven;) near the occiput the scales are perfectly smooth. Total length 3 feet 8 $\frac{1}{4}$ inches, (Fr. ;) of tail 5 $\frac{3}{4}$ inches; of another 3 feet 6 $\frac{1}{4}$; of tail 5 $\frac{1}{2}$. Abdom. scut. 221 in one; 1 bifid præanal; 66 subcaudal; in the other, ab. scut. 227; subcaudal 176. Circumference of first specimen at its middle 3 inches 7 lines; of second 2 inches 4 lines. Subcaudal scutes larger in the larger specimen.

The genus *Elaphis* appears to be very well characterized, and comprehends, according to Duméril and Bibron, thirteen species distributed in various parts of the world—Montevideo, (pleurostictus,) borders of the Caspian, Persia, S. Europe, Japan, (virgatus,) N. America, islands south of Japan, (conspicillatus.) It is one of the very few genera of serpents common to Europe and America.

The species inhabiting the United States are *Elaphis Alleghaniensis*, *guttatus*, *quadrivittatus* and *vulpinus*; three others have been described by Duméril and Bibron, viz., *E. spiloides*, *rubriceps* and *Holbrookii*; and Profs. Baird and Girard describe also three, viz., *Scotophis Lindheimerii*, *confinis*, *lætus*; the only specimens of these we have at present in our collection beside the three first enumerated, are two of *vulpinus*, presented by Dr. Gavin Watson, from the neighborhood of Buffalo, New York, which are readily determined from the description of Baird and Girard, and which undoubtedly belong to the genus *Elaphis*, which, according to Duméril and Bibron, was established by Aldrovandi in 1640 for the *quadriradiatus* of Gmelin, (*Elaphis* {*cervone*}). *Elaphis Holbrookii* is represented as without spots or bands upon the flanks.

The geographical range of *Alleghaniensis*, according to Prof. Holbrook, is the Blue Ridge, Virginia, Highlands of the Hudson, N. Y., and Mountains of Carolina, and according to Profs. Baird and Girard, Carlisle, Penna., Creek boundary, (Hallowell.)

ABLABES, D. & B.

Char.—"Colubriform serpents with a moderate head, generally somewhat distinct from the trunk, which is almost cylindrical; abdomen separated from the flanks by an angle but little salient, the scuta being scarcely elevated upon the sides; snout short, smooth and rounded; eyes rather small; tail of moderate length, somewhat tapering; scales of the trunk rhomboidal, for the most part short and without carinæ."—D. & B.

ABLABES TRIANGULUM. VAR. CALLIGASTER.

Among the collection of reptiles presented by Dr. Hammond, are three snakes resembling the *Coluber eximius* of Dekay, but which differ in the markings about the head, in the general color, but more especially in the number of scales, there being but twenty-one rows in *eximius*, and from twenty to twenty-seven, (20 towards the tail and 25 upon the neck,) in one of these specimens; 25 in the others. The blotches upon the back, of which there are fifty, are more narrow than in that species, their external margins being separated from the abdominal scutes by seven rows of scales; the blotches are from three to five lines in length by eight in breadth; there are eighteen transverse spots upon the tail; two rows of lateral spots, the superior much larger than the inferior; the head is long, the frontal (vertical) plate longer than broad, the gape of the mouth extensive, the eye resting on the 4th and 5th superior labials in advance of the middle of the gape; scales perfectly smooth, more narrow and elongate than in *eximius*; 210 abdom. scut. 1 bifid præanal; 65 subcaudal; total length 2 feet 7 inches, (Fr.); of tail 5 inches 3 lines; another 2 feet $6\frac{1}{2}$ inches, and a third, 2 feet $8\frac{1}{2}$ inches in length; in another 206 ab. scut.; a single præanal, 243 subcaud.; and in a third 198 abdom. scut. one single præanal and 41 subcaudal. These numbers agree sufficiently well with those of *calligaster*, as given by Harlan, viz. abdom. 213, caudal 52, (Med. & Phys. Research. p. 122.) whereas in *eximius* the abdominal plates, according to Harlan, run as high as 250 in number. Dr. Holbrook, however, gives 198 abdom., 1 præanal, 247 subcaudal, and Harlan states that in a living one which he observed, there were only 33 pair of caudal scutes. In Professor Baird and Girard's specimens of *eximius*, the number of abdominal plates varied from 200 to 214, and the abdominal from 49 to 55; the total length from 2 feet $4\frac{1}{2}$ inches to 3 feet 10 inches, corresponding in this respect with Harlan's description of *calligaster*, which he says was about 4 feet long; so that there does not appear to be any material difference between the *eximius* of Dekay, and the specimens under consideration, either in the number of plates or in the length of the animal, but chiefly, as before stated, in the greater number of rows of scales of the latter; in all Profs. Baird and Girard's specimens of *eximius*, and in those of the Academy, the number being but 21. There can be little doubt, we think, that the specimens from Kansas are identical with the *calligaster* of Say, for Dr. Harlan, who appears to have first described those in the Philadelphia Museum, is of opinion that they may be a variety of *eximius*. Prof. Holbrook,

who examined the originals of Say, states that they are the same, differing only in the greater number of plates in calligaster; but it is quite possible that he may not have counted the rows of scales. In all of the Kansas specimens, the coloration of the head and neck is different from that usually observed in *eximius*, and in two of them entirely so, there being in each two dark brown longitudinal blotches upon the temples, and on the neck, one on each side, and another about half the length of these between them, the triangular spots described by Lacepède, being altogether absent. Ground color of head above brown, with no white stripes or bands, but a band of dark brown extending across the posterior margin of the pre-frontal plates. The ground color of the body and tail above is brown, the transverse spots or blotches much darker, each with a slight margin of a lighter brown than the ground color; the blotches are more narrow than in *eximius*, occupying from two to three rows of scales only in length, and from eight to ten in breadth; 45 in one, (the 45th opposite the anus,) upon the body; 18 upon the tail; 47 in another; and 18 upon the tail, and in a third 49; the 49th opposite the anus, and 14 upon the tail; blotches upon tail quite narrow, minutely black spotted and maculated, as well as interspaces and sides; color of abdomen as in *eximius*. Notwithstanding the great resemblance in the number of abdominal and subcaudal plates, and general appearance, we are inclined to consider the above specimens as belonging to a variety distinct from *eximius*, being, in fact, the calligaster of Say. We have recently received from Kimball's Museum, Boston, (whither the originals of Say had been transferred,) through Dr. Holbrook, one of the originals of Say's calligaster; the tail is broken off with a small portion of the body, but it corresponds with Dr. Harlan's description, and Prof. Holbrook's notice of it, the scales, of which there are twenty-five rows, being perfectly smooth. We therefore have a confirmation of the statement of Prof. Holbrook, of the specific identity of *eximius* and calligaster, and of the opinion of Duméril and Bibron, who place it, as well as *clericus*, among the synonyms of *Ablabes triangulum*, and I am happy to agree with those learned and very eminent Herpetologists.

The following may be given as the characters of *Albabes triangulum*, var. *calligaster*.

Char.—Head rather long; seven superior labials; body of moderate thickness, with from 25 to 27 rows of smooth scales; tail about 1-6th of the total length; color brown above, with from 45 to 49 rows of black transverse narrow blotches upon back and 14 to 18 upon tail; two lateral rows of smaller blotches upon sides; under part of body beautifully tessellated with black and white; abdom. scut. 198, 210, subcaudal 41, 65; length 2 feet $6\frac{1}{2}$, 2 feet $8\frac{1}{2}$ and 3 feet 10 inches, (Fr.)

Geographical Distribution.—Kansas, Missouri.

Gen. Remarks.—Duméril and Bibron state that the name *triangulum* has precedence over that of *eximius* of Dekay, having been applied to the same species by Count Lacepède, in his *Hist. des Serpens*, published in 1789, Tome, 2, p. 331. The description of Lacepède is very precise, but it appears to us that it applies, not to the *eximius* as usually described, but rather to the *clericus* of Baird and Girard. The description of Lacepède is as follows: "Nous nommons ainsi (triangle,) cette espece de couleuvre parce qu'on voit sur le sommet de la tête, qui est garni de neuf grandes écailles une tache triangulaire chargé dans le milieu d'une autre tache triangulaire plus petite et d'une couleur beaucoup plus claire ou quelquefois plus foncée; des écailles unies et en losange couvrent le dessus du corps, qui est blanchâtre avec des taches rousses irrégulières et bordées de noir; on voit un rang de petites taches de chaque côté du dos et une tache noire allongée, et placée obliquement derrière chaque œil." The length of Count Lacepède's specimen was 2 feet 7 inches 2 lines, tail 3 inches. Abdom. sc. 213, subcaud. 48 pair. There can be no doubt therefore of the priority of Lacepède's description which is very accurate, but inasmuch as but one row of lateral spots is mentioned, there is some doubt whether it applies to *eximius* or to the serpent described by Baird and Girard, having only one row of lateral spots, (*Ophibolus clericus*.) We have a number of specimens with but a single row of

lateral spots with transverse blotches much broader, and reaching to the abdominal rows of scales, but in which the size and position of the eyes do not appear to form constant characters. The blotches in a recent specimen are of a bright red, a very inappropriate color for a clericius, according to our present notions. The specimens marked eximius are all immature, with one exception, but all have the double row of spots.

ABLABES TRIANGULUM, var. CLERICUS]

Char.—A large triangular red blotch upon posterior part of head and neck, with a smaller one of a lighter color in the middle; a black band from the eye to the angle of the mouth; 27 rows of quadrate blotches upon the back, of a bright red color bordered with black, the 27th opposite the anus; eight upon the tail; the blotches upon the back separated from the abdominal scuta by a row and one half of scales, and sometimes reaching as far as the last row; a single row of much smaller lateral spots of a red color bordered with black, intermediate as respects the position of the larger ones, occupying the last or abdominal row of scales, and a portion of the abdominal plates; 21 rows of scales; abdom. scut. 196, præanal single, subcaud. 44; circumference 2 inches 7 lines. Total length 2 feet 7½ inches, of tail 3 inches 11 lines.

It will be observed that these characters differ very little from those given by Count Lacepède.

Habitat.—Clark county, Virginia, Mississippi and neighborhood of Haddonfield, New Jersey.

For description of var. eximius,* see Dr. Holbrook's work, N. American Herpet., vol. 3, p. 69.

The geographical range of eximius, according to Prof. Holbrook, is Maine, Rhode Island, Massachusetts, Pennsylvania, Maryland, Illinois, and high up the Missouri, (calligaster, Say,) and New York, (Prof. Baird.)

Gen. TANTILLA, B. and G.

Among the Ophidians of Dr. Hammond's collection is a very small Calamarian, resembling in its general appearance *Carphophis amæna*, Dum. and Bib., but much more slender and of a lighter brown color. The arrangement of the plates upon the head, however, is quite different, and I cannot find a genus into which to place it, among those of the Calamarians characterized by Dum. and Bibron, in the Catalogue of North American Serpents of Baird and Girard, unless it be *Tantilla*, or of the snakes in the British Museum, by Mr. Gray. The following are its characters:—Head small, slightly rounded above, depressed in front; snout smooth, rounded, nine plates upon the top of the head, the two anterior frontals much smaller than the posterior, which pass down on each side of the head between the posterior nasal and the anterior orbital plates, and are in contact with the superior labials; nostrils between two plates, situated in the anterior of the two for the most part, at its posterior edge; vertical or frontal plate short and broad, hexagonal, the posterior angle much more acute than the anterior; occipitals rather long, pentagonal; the supraciliaries do not project over the eye; but two temporal plates; no loreal, the posterior frontal taking the place of it; one ant-orbital and one post-orbital, the latter somewhat larger than the former; six superior labials, the eye resting on the third and fourth, the fourth, fifth and sixth much larger than the preceding ones; eye small; six inferior labials, the fourth the largest; body slender, somewhat thicker near the middle, with 15 rows of smooth and rhomboidal scales; five longitudinal rows of smooth rhomboidal scales, four scales in each beneath the neck, between the posterior genæal and front abdominal scutes; three inferior lateral rows of scales larger

*Dr. Dekay says of the eximius, "it is rare to find them exceeding 4 feet; the more usual length is about two."

than the others; color light brown or olive above, lighter beneath, approaching to white, a narrow dark colored line along the middle of the back, commencing at the occiput; head of a darker brown than the rest of body; ab. scut. 130; one single præanal and 42 bifid sub-caud.

Dimensions. Length of head 3 lines; greatest breadth 2; length of neck and body 5 inches; of tail 1 inch $6\frac{1}{2}$ lines; total length 6 inches $9\frac{1}{2}$ lines.

Habitat. Kansas.

Gen. Remarks. This serpent corresponds very closely with *Tantilla* of Baird and Girard, and may be their *Tantilla gracilis*, which, however, wants the vertebral line. In their species the posterior frontal do not come in contact with the labials and the vertical plate is represented as anteriorly acute. The number of rows of smooth scales, of orbital plates and abdominal and sub-caudal scutes agree very well, there being 129 of the former and 45 of the latter.

We do not find, however, that the inferior row of scales is considerably broader than the others, if indeed so broad as the row above it.

Habitat. Indianola.

CORONELLA LAURENTI, 1768.

Char. "Serpents with posterior superior maxillary teeth longer and on the same line with the others, without interval; trunk elongated; scales smooth; snout rounded and but little elongated." D. & B.

CORONELLA DOLIATA, var.

There is one specimen of *Coronella doliata*, one foot three inches in length; and two specimens resembling the *Calamaria elapsoidea* of Holbrook, which appear to be the young of the former. They do not belong to the genus *Calamaria*, which has but one nasal plate and no frenal, *elapsoidea* having no frenal and the nostril between two plates. We have also in the collection of the Academy a specimen marked *elapsoidea* from the Creek boundary, which, however, has a loral plate and is no doubt a young *coronella*. The following notes may characterize sufficiently these specimens: *Cor. doliata*, adult. Head resembling that of *Elaps*; vertical (frontal) plate a little longer than broad; two lines in breadth; occipitals short; pre-frontals (posterior frontals) much larger than the inter-nasals (ant. frontals); nostrils between two plates; a small and narrow frenal; one anterior and two posterior oculars, seven superior labials, the eye resting on the third and fourth; 21 rows of smooth, quadrangular, elongated scales; tail short, 3 inches 3 lines in length. Abdom. scut. 200; one single præanal; 52 subcaudal.

Coloration. Twenty-nine red spots upon the back, bordered with black; interspaces between the black bands white; the red spots are for the most part more narrow in the middle, more extended laterally; the black bands occasionally almost touching each other; the black bands coalesce with black, sub-quadrangular spots upon the abdomen, having other black spots intermediate; a black, transverse band across the occipital plates; a few black spots upon the upper labials; ground colour below light yellow; the black bands upon the back are from two to two and a half lines measured longitudinally, being about thrice the dimensions of those of a specimen from Delaware. The red spots or transverse bands occupy from two to two and a half rows of scales, as do also the black bands upon the margins. In the specimen from Delaware the red spots occupy a much greater space, the first comprising 11 rows of scales, but 6 in the Kansas specimen; the second six, in the Kansas specimen three, and the black margins are also much more narrow, occupying $1\frac{1}{2}$ rows of scales; the black tessellated markings upon the abdomen also differ, and the alternate black spots are not seen except towards the tail; the snout is more acute, and the number of rows of scales is less, viz.: 19. Ab. scuta 186; one single præanal; and 42 sub-caudal.

In the specimens of *Ophibolus gracilis*, B. and G., the anterior black rings so extend as to cover the whole head above, except the very tips; in other specimens the black rings run into each other. In another there were only 21 pairs

of rings. They are from Arkansas and Louisiana; number of rows of scales not mentioned, (Cat. N. Am. Reptiles in Smith. Inst. p. 91). *Ophibolus* is not characterized with sufficient precision to be retained, including as it does two genera, *Ablabes* and *Coronella*, belonging to different families, the one (*Ablabes*) an *Isodontian*, with teeth of equal length, the other (*Coronella*) a *syncraterian*, (posterior teeth in the latter much larger and stronger than those which precede them, a well marked character in our specimens). The one from Delaware corresponds very well with Prof. Holbrook's *Coronella doliata*, though the rings are not so generally confluent with the spots upon the abdomen.

In one of the younger specimens, one $9\frac{1}{2}$ the other $7\frac{3}{4}$ inches in length, the red blotches are much wider apart, the black rings more narrow in proportion and the white interspaces wider than in the other. The black rings in rows, in these specimens entirely surround the abdomen. (We need for the thorough elucidation of the natural history of the *Coronellians* resembling each other so much in color, a greater number of specimens and of all ages. Our friends would confer a favor upon science would they take care, as has been the case to a great extent in the Kansas collection, to send us numerous specimens of the same species.)

Gen. Remarks. The coloration of this serpent differs very considerably from that of the figure of *Ophibolus gentilis*, B. and G., in the exploration of the Red river of Louisiana, by Capt. Randolph B. Marcy and George B. McClellan. The blotches in that figure are much more extended, and the black marginal rings much wider apart. In one of these specimens there were 25 instead of 29 pairs of black rings, the red portion occupying a much greater space; but in another there were 28; dorsal row of scales 21; Ab. scut. 198; sub-caud. 45; total length 20 inches. These black ringed *Coronellians* will probably, when a sufficient number of specimens shall have been procured from different parts of the Union to determine the question, turn out to be for the most part varieties of one and the same species.

Gen. *TROPIDONOTUS*, Kuhl.

The genus *Tropidonotus* belongs to the family of *Syncraterians* of Dum. and Bibron, in which the teeth are in a continuous row without interval, and the posterior longer than the others; the scales in this genus, as its name indicates, are always carinated, more especially those upon the flanks. The tail is of moderate length. Three species in the collection belong to this genus, viz.: *Tropidonotus parietalis* of Say, of which there are three fine specimens; a much larger one, (*Trop. obliquus*.) and *Trop. ordinatus*.

TROPIDONOTUS PARIETALIS, Say.

The collection made by Dr. Hammond includes two specimens of *Tropidonotus parietalis*. Both these serpents correspond with the short but clear description of Say. The red spots on the sides are very apparent; one of the specimens is quite stout, the circumference being $3\frac{1}{4}$ inches at the middle; 147 abdom. scut. a single præanal, (tail mutilated) 19 rows of scales, the inferior row smooth, the middle stripe broad, occupying one and the half of each adjoining row of scales. In the smaller specimen, Ab. sc. 155., and 83 sub-caudal; tail of moderate length, rather long and tapering.

Habitat. Between San Antonio, El Paso, Missouri (Say); Kansas, California, (Dr. Heermann); Rio San Pedro, Texas, (Woodhouse.)

There is but one specimen of *Tropidonotus ordinatus* (young) with the lateral stripes very distinct, three rows of alternate black spots; extremities of abdominal scales black spotted anteriorly; occipital plates bi-punctate; 21 rows of scales all carinated, inferior row largest; ab. sc. 167, a single præanal, 78 sub-caudal. Total length, 1 foot 1 inch 7 lines, of tail $3\frac{1}{4}$ inches.

TROPIDONOTUS OBLIQUUS, nob.

Char. Head long, flattened above, nostril between two plates, a loreal, other plates normal, 8 superior labials, the eye resting on the 4th and 5th, 6th and 7th

the largest; immediately behind the middle post-ocular one temporal plate between the occipital and the superior labials; 23 rows of carinated scales, the inferior row but slightly carinated and larger than the others; scales strongly emarginate posteriorly, the carinæ running the whole length of the scale; scales long and rather narrow upon the back, broader towards the abdomen. 140 ab. sc. 1 bifid præanal, and 69 sub caudal; tail rather long, tapering to a point; body robust, size about that of *Tr. sipedon*.

Coloration. Greyish above, with large transverse and more or less oblique blotches of the same color bordered with black, extending as far as the abdominal scales; they are quite broad, occupying about five rows of scales, and have very irregular margins; the interspaces between them are comparatively very narrow, from a scale to nearly two in width; 32 of these oblique blotches may be counted, the 32d opposite the anus; 18 or 19 transverse brownish bands upon the tail; under surface resembling very much that of *sipedon*, the ground color yellow, which predominates greatly at the anterior part; throat and under jaws quite yellow, the posterior margins of the inferior labials bordered with brown.

Dimensions. Length of head 1 inch 5 lines; greatest breadth 9; length of body 2 feet, 1 inch, 7 lines; of tail 8 inches; total length, 2 feet, 10 inches, 1 line; circumference 3 inches, 1 line.

Gen. Remarks.—This serpent differs from *Trop. rhombifer* and *transversus*. It resembles very much a specimen in the possession of Dr. Holbrook from Chicago, sent to him some time ago by Prof. Kirtland, and which he has kindly permitted me to examine. They both are of the same length, have similar markings, and the same number of rows of scales. It may be a variety of *Trop. sipedon*.

HETERODON NASICUS.

There are three specimens of *Heterodon nasicus* B. and G., in very excellent preservation. These *Heterodons* are remarkable for their prominent rostral plate and bulging cheeks, giving them a physiognomy, to use the expression of Prof. Schlegel, quite different from that of our ordinary *Heterodons*. The abdomen and under part of tail is almost entirely black. In two of the specimens the vertical (frontal) plate is as broad as long, in one broader by about half a line; the shape of the vertical plate differs entirely from that of *simus*, but much more from that of *niger* and *platyrhyns*. In a specimen of *simus* there are eight small plates between the frontal and rostral, and the anterior nasal and supero-nasals; in *nasicus* fourteen, in *platyrhyns* and *niger* there is but one, (the *azygos*) immediately behind the rostral. In a specimen of *niger* there is but one loreal plate, the posterior supra-nasal (posterior frontal) passing down upon the side to take the place of the upper one in *simus*; and in *platyrhyns* two. The entire length of the largest of these specimens of *nasicus* is one foot, three inches, tail 2 inches 7 lines, circumference 1 inch 7 lines. It appears to be a smaller species than *simus*, and much smaller than *platyrhyns* and *niger*. Prof. Baird and Girard, however, give over two feet as the dimensions of a specimen from Sonora. Ab. sc. 137, 1 bifid præanal, 43 sub-caudal. In 2d. 137, ab. sc. sub-caud. 43. In 3d, 137, ab. sc. sub-caud. 44.

Habitat. Rio Grande, Red River, Arkansas, Fort Webster, Sonora.

Gen. remarks. The figure in Capt. Marcy's report does not accurately represent this animal; the bulging of the cheeks, a prominent characteristic, is not sufficiently shown, and the nostril is in a single plate, which is not the case.

VENENOSI.

TRIGONOCEPHALUS CONTORTRIX.

There are four specimens of *Trigonocephalus contortrix*, which present nothing very peculiar. In one of them the black color predominates greatly upon the abdomen; dorsal rows of scales near the middle in all 23. In a fine specimen from Pottsville, Pa., presented by Mr. C. T. Hughes, the dorsal rows are but 21,

ab. sc. 146; a single præanal, 38 sub-caud. followed by 7 bifid near the posterior extremity of the tail; in the Pottsville specimen, 148 ab. sc. 1 bifid near the anus, 21 single and 20 bifid plates at the end of the tail. In a 2d 142, ab. sc. 1 bifid near the anus, 25 single and 21 bifid. In all the specimens the sub-caudal scales are single anteriorly and bifid posteriorly. The *Trigonocephali*, like the *Crotali*, have a deep pit between the eye and the nostril, in which they differ from the *Vipers*. They have plates upon the head, unlike *Bothrops* and several other genera, and are destitute of rattles. This serpent was first described by Linnæus under the name *Boa contortrix*; and afterwards by Pallas de Beauvois, who calls it *Angistrodon mokeson*. It has been placed in no less than five different genera, viz.: *Boa*, *Angistrodon*, *Cenchris*, *Scytalus*, and *Trigonocephalus*, with three different specific names.

Habitat. This serpent has a very wide geographical range. From N. England to Florida, and the shores of the Atlantic to Alleghanies, (Holbrook) Ohio, Penn., S. Carolina, Louisiana, Texas, (B. and G.)

CROTALUS CONFLUENTUS.

There is one specimen of *Crotalus*, which corresponds sufficiently well with Say's description of *Crotalus confluentus*. The spots are more crowded together anteriorly than in the specimen described in Sitgreave's report; the interspaces between the first fourteen being much more indistinct than between those which follow, especially the first seven which present the appearance of narrow white transverse bands; they are confluent only to a slight extent. Total length including rattle, 1 foot $8\frac{1}{2}$ inches; of tail including rattle 1 inch 8 lines; of rattle 9 lines; (4 rattles and terminal appendage) of head 1 inch, breadth $\frac{3}{4}$; 25 or 27 rows of scales. 178 ab. sc., a single præanal, 1 bifid, 14 single and 2 bifid sub-caudal, the last near the rattle; circumference 2 inches. 40 brown subquadrate spots, more or less margined, may be counted upon the back and four or five upon the tail; the last nine or ten have more the appearance of bars than regular blotches. A much larger *Crotalus* than the above is found in California, of which an excellent figure is given in Capt. Marcy's *Exploration of Red River*, pl. 1, under the name of *Crotalus confluentus*. We have several in the collection of the Academy, presented by Dr. Heermann, of which a notice will be given in the forthcoming volume of the *Pacific Railroad report*, under the direction of Capt. Williamson. These are of a yellowish color beneath, with brownish maculations; the subquadrate spots upon the back a deep brown bordered with orange. One of these specimens measures more than 3 feet in length; 23 rows of scales. The predominate color in the specimens, except that of the dorsal subquadrate blotches, is sulphur yellow. The name of *Crotalus Lecontei* might perhaps with propriety be given to this species from California, and that of *confluentus* be retained for the smaller *crotalus* with quadrate blotches, from Missouri and Kansas. The serpent figured in the *Exploration of Red River*, has more the general appearance of the former, and the shape of the rattle corresponds, this in *confluentus* tapering to a point; and not quadrate as in the larger animal.

RANIDÆ.

There is in the collection a specimen of *Rana halecina*, which does not differ in any important particular from the *R. halecina* found in the neighborhood of Philadelphia, unless it be that in the latter the internal nares appear to be larger, and the tongue more narrow. The vocal vesicles are quite distinct, the pores upon the orbit conglomerated and very apparent; others are observed upon the neck and anterior part of the back, and a band extends along the upper margin of each flank, from the posterior angle of the eye to near the thigh; Duméril and Bibron state, that it is with some doubt that they separate this species (the *halecina*,) from *palustris*, but admit that they are, and they are no doubt distinct. They are both very common in the neighborhood of Philadelphia. The *Rana halecina* has vocal vesicles, the *palustris* has none; the

spots as Duméril and Bibron observe, are subquadrate in palustris, but round in halecina; the thighs are very differently marked in the two species, and the tympanum, as stated by the authors above mentioned, is smaller in palustris, but it appears to us that the snout is more acute in the latter than in halecina, being the reverse of the diagnosis as given by them.

RANA PAPIENS.

There is but one specimen of *Rana pipiens* in the collection, and that is about half grown. It does not differ materially from one of the same dimensions from Absecon, N. J., except in the size of the tympanum, which in the Kansas specimen is not more than $2\frac{1}{2}$ lines in diameter; whereas in the one found at Absecon it is 6 lines, being the same as in a very large and full grown specimen from Buffalo, New York. The general color is olive above, minutely and sparsely spotted with black, with very indistinct bars of a deeper olive upon the posterior extremities. The mottlings below resemble each other, except that in the Absecon specimen they are of a chocolate color, and the color of the abdomen less clouded; they both appear to be females. The difference in the size of the tympanum is certainly remarkable, but without a greater number of specimens, we are unwilling, on that account, to give it a new specific name. Besides the above, there are several other smaller specimens of the same olive color above, the rows upon the posterior extremities of a darker color, the body covered with minute black spots, in the youngest resembling the *R. conspersa* of Major Le Conte, which is, probably, the young of *R. pipiens*. According to Major Le Conte, *conspersa* wants the ridge upon the tympanum. Under part mottled as in the larger individual.

There is a single specimen of a very small Batrachian resembling the *Acris gryllus*, grey spotted above with the triangular spots upon the head; thighs and eyes obliquely spotted with brown; under parts white; length from snout to posterior extremity of body 6 lines; length of anterior extremities 3 lines; of posterior $9\frac{1}{2}$.

BUFONIDÆ.

BUFO AMERICANUS.

There are in the collection of Dr. Hammond, two very large toads, larger than any specimens of *Bufo americanus* that I have seen. They measure 3 inches 11 lines in length, (from snout to vent,) the dimensions of the *Bufo americanus*, as given by Prof. Holbrook, being but $2\frac{1}{2}$ inches. The longitudinal ridges upon the head are as in *Americanus*, and there is a narrow vertebral line running from the extremity of the snout to near the posterior extremity of the body; the general color is dusky above mingled with olive, with a few subround black spots and linear maculations; the black colored maculations are more distinct upon the sides; under part yellow, mingled with orange posteriorly; the warts upon the sides of the body above and upon the posterior extremities are remarkable for their large size.

The *Bufo punctatus* of Profs. Baird and Girard appears to be the young of this species; they are of an ash grey with subround spots, and irregular markings of black, containing one or more prominent red colored points or tubercles. Under parts white, with a tinge of blue upon the abdomen, except posteriorly, the under surface of the posterior extremities of a yellow color. I cannot make out that this toad differs essentially from *Bufo americanus*, and in this my friend Major Le Conte agrees, who also examined the specimen.

The most striking difference between this species and the *Americanus*, consists in the much greater breadth of the tongue, and its greater comparative evertility; in two specimens of equal size, the tongue in the Kansas specimen is six lines in breadth, in *Bufo Americanus* but three. In the largest specimen the tongue measures 7 lines in breadth, and is somewhat less evertile than in the smaller specimen. This species is very different from *Bufo halophila*, B. & G., inhabiting California; the latter is much more warty, the warts being

very numerous and much developed along the middle of the back; the markings beneath are also different, halophila being largely maculated beneath.

ENGYSTOMA OLIVACEUM, nob.

There is a single specimen of Engystoma, one inch one line in length by seven lines in breadth; the anterior extremities 6; the posterior 1 inch 10 lines in length. The general color above is olive, with dark colored spots posteriorly; these are observed in considerable number upon the posterior part of the body and upper part of the thighs; a few also are seen over the shoulders; the sides are obscurely marbled with brown; under surface yellow, immaculate; a well marked fold passes across the head behind the eyes, extending down alongside of the head.

This specimen is larger than any of those in the collection of the Academy, and the coloration is quite different from that of Dr. Holbrook's figure (N. Am. Herpet. vol. v. pl. vi.,) and the specimens from Georgia in the collection presented by Maj. Le Conte. These are all more or less mottled with brown beneath and brown or chestnut colored above.

Dimensions. As above, length of tarsus and toes 9 lines; of leg 4 lines; of thigh 4; of arm 2, of forearm 2.

Gen. Remarks. Duméril and Bibron describe five species of Engystoma—two from N. America, (carolinense and rugosum,) two from S. America, (ovale and microps,) and one from Malabar, (ornatum.)

Habitat. According to Dr. Holbrook, Engystoma Carolinense has never been found north of Charleston, its range extending westward to the lower Mississippi.

URODELA.

AMBYSTOMIDÆ.

AMBYSTOMA LURIDUM, var. FASCIATUM.

There is but one specimen of Urodela, viz., an Ambystoma. This is the same animal apparently figured in Duméril and Bibron's work, pl. 105, under the name Ambystome abandes, (variété,) but it differs entirely from Ambystoma fasciatum, (opacum,) not only in coloring but in the arrangement of the teeth; these in fasciatum are placed in three distinct groups, whereas in the present specimen they are in a continuous series, forming a very obtuse angle, the lateral prolongations passing behind the internal nares and terminating in a line with their external margin, presenting the same arrangement as in Ambystoma luridum, of which it is probably a variety, having nothing to distinguish it from that species but the coloration. Duméril and Bibron state that their specimen was received from the neighborhood of New Orleans.

One cannot but remark, in studying the collection of reptiles above noticed, the great difference in the geographical range of the genera and species composing it. The Emys does not exist with us, neither does a single one of the genera of the lizards, unless it be Cnemidophorus. Of the innocuous serpents four are common to Pennsylvania and Kansas, viz., Elaphis Alleghaniensis, Ablabes triangulum, Tropidonotus ordinatus and Herpetodryas vernalis. The others, viz., Tropidonotus parietalis, unless it be considered a climatal variety of sitalis, Tropidonotus obliquus, Microps lineatus, Coryphodon flaviventris, Coronella doliata, Tantilla gracilis and Heterodon nasicus are unknown to us. The genera of innocuous serpents in the collection common to Pennsylvania and Kansas, are Elaphis, Ablabes, Tropidonotus, Coryphodon and Heterodon. Of the venomous serpents, Trionocephalus contortrix, which is one of the most widely diffused of our serpents exists in both regions, but Crotalus confluentus is found only in the far west and south-western portions of North America. Of the Ranidæ, R. halcinea and pipiens are common to both, and of the Bufonidæ B. Americanus; but we have no Engystoma, and among the Urodela no Ambystoma, with an arrangement of teeth and system of coloration in all respects

similar to the specimen in the collection, which appears to us, as above mentioned, to be closely allied to *luridum*.

We have not at present the materials for a complete representation of the Herpetological fauna of America either North or South, but these will hereafter no doubt present some very curious results, when compared with the fauna of the West India Islands, and other parts of the globe. In order, however, to arrive at the truth in a matter so important, it will be necessary to determine with the utmost precision the characters both of the genera and species, and this cannot be done without a knowledge of the anatomy, as well as of the external forms.

Descriptions and Notes on Birds in the Collection of the Academy of Natural Sciences of Philadelphia and in the National Museum, Washington.

By JOHN CASSIN.

1. *BUTEO COOPERI*, nobis.

About the size of *Buteo borealis*. Bill strong, edges of upper mandible lobed, wings long, quills wide, fourth quill longest, tail moderate, legs rather long, tarsi feathered in front slightly below the joint, behind and remainder in front naked, with about 13 transverse scales in front and 11 behind.

Total length (skin) $21\frac{1}{2}$ inches, wing 15, tail 9 inches.

Tail white at base, external feathers with their outer webs cinereous and their inner webs white mottled with cinereous, other feathers of the tail mottled and striped *longitudinally* with white, bright rufous, dark brown and cinereous, darker on the outer webs. A subterminal transverse band of dark brown, tip white.

Plumage of the head above white at base, tipped, and with longitudinal stripes of brownish black; back and rump brownish black, upper tail coverts white, transversely barred with dark brown and tinged with rufous, wing coverts and quills cinereous darker on outer webs of primaries and lighter on their exposed ends. Under parts white, with narrow stripes of dark brown, numerous on the neck, throat and flanks, (breast, abdomen and under tail coverts pure white,) a few of the same on the under wing coverts, tibiae faintly tinged with yellowish. Bill dark bluish, tarsi yellow.

Obs. This is the young plumage, and the present specimen is the only one that I have ever seen. It is from California, and is in the collection made by Dr. J. G. Cooper, while attached to Lieut. Williamson's party that surveyed a route for a railroad to the Pacific Ocean.

This bird belongs to the same group as *Buteo cythronotus* of South America, and has nearly the same light cinereous color of the wings, quite different from any other North American species. I have named it in honor of Dr. Cooper, a talented and active young naturalist, the son of William Cooper, Esq., one of the most eminent of American Naturalists.

2. *EOPSALTRIA CINEREA*, nobis.

Bill thick and rather long, distinctly notched near the end, wing rather long, first quill spurious, fourth slightly longest, tail moderate, tarsi and toes slender, feathers of the head above slightly lengthened.

Total length (of skin) 5 inches, wing $2\frac{3}{4}$, tail 2 inches.

Entire upper parts cinereous, feathers on the head with faint lines of brown on the shafts. Quills dark ashy brown, edged externally with pale ashy, tail dark ashy brown, narrowly tipped with white. Throat and abdomen white, breast pale ashy, under wing coverts white. Obscure line from the bill to the eye, and ring around the latter, white, spot in front of the eye, dark ashy brown. Bill dark, base of lower mandible white, feet dark.

Hab. Moonda river, Western Africa. Discovered by Mr. P. B. DuChaillu.

Obs. This little bird is nearer the genus *Eopsaltria*, than any other that I can find at present, though perhaps not strictly. Two specimens in the collection of Mr. DuChaillu are all that I have seen. It is a plain little bird, having the general appearance of *Vireo* and *Eopsaltria*.